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### REMARKS

Claims 1-63 are in the application as filed.

Claims 1-63 stand rejected.

Claims 15, 23, 36, 44 and 57 stand objected to.

Claims 1, 22, and 43 stand rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent 5,327,329 ('329).

Claims 1, 22, and 43 stand rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent 5,660,461 ('461).

Claims 1-3, 5, 7, 17, 22-24, 26, 28, 38, 43-45, 47, 49, and 59 stand rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent 6,152,491 ('491).

Claims 4, 8-13, 18, 25, 29-34, 39, 46, 50-55, and 60 stand rejected under 35 U.S.C. 103 as unpatentable over the '491 patent in view of 2003/0174517 ('517 publication).

Claims 14-16, 20-21, 35-37, 41-42, 56-58, and 62-63 stand rejected under 35 U.S.C. 103 as unpatentable over the '491 patent in view of 5,890,794 ('794).

Claims 1-63 stand rejected under the judicially created doctrine of double patenting in view of U.S. Patent 6,573,536.

Claims 19, 40 and 61 stand objected to but would be allowable if rewritten in independent form.

The Examiner is thanked for the thoroughness of the search and examination. The following numbered sections correspond to the numbered sections in the office action:

1. Claims 15, 23, 36, 44 and 57 have been corrected to provide proper antecedent basis.
2. The Examiner has rejected claims 1, 22, and 43 as anticipated by the '329 patent.

At the outset, it is specifically pointed out that the '329 patent is absolutely silent on heat transfer. However, it appears from the drawing figures that the light emitting diodes are each mounted in a hole in the sidewall of the tube. There is no indication that there is any thermal conduction between the light emitting diodes and the tube. The description of the embodiment is silent as to the material of tubes 22. (see col. 3, lines 52-60).

The only place where mention is made of metal tubes is at col. 4, lines 19-27. However, the suggestion immediately after mention of use of metal tubes is that an "appropriately sized O ring" may be used to retain each LED better in its hole.

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The plain and simple teaching of this patent is that the tube is used to carry the LEDs in apertures. From the drawing, it appears that the plastic periphery of each LED engages the holes. Plastic is an inefficient thermal conductor. There are no details of the mounting of the LEDs other than the use of an O ring. O rings are typically of thermally non-conductive material. Accordingly, the '391 patent does not show or teach any thermal conductivity between the LED and the tubes. Since no thermal conductivity between the LEDs and the tubes is either shown or suggested, it is error to state that the tubes conduct heat from the LEDs.

Accordingly, it is respectfully submitted that it is error to suggest that the '329 patent teaches use of thermally conductive tubes for transfer of heat. Even if it is assumed that the '329 patent teaches the use of thermally conductive tubes, the LEDs are thermally isolated from the tubes by the use of O-rings.

The Examiner must consider what the references fairly teaches within its four corners. There is no teaching or suggestion of the use of "an elongate thermally conductive member" as called for in claim 1, 22, or 43.

There is no teaching or suggestion of "at least one solid state light source carried on said elongate member outer surface" as called for in claim 1; or "at least one radiation emitting semiconductor device carried on said elongate member outer surface" as called for in claim 22; or "at least one radiation emitting solid state device carried on said elongate member outer surface" as called for in claim 43. The structure of the '391 patent carries the LEDs in apertures, not on the outer surface of the tube.

In view of the foregoing, it is respectfully submitted that the '329 patent does not show, teach or make obvious, the novel structures of claims 1, 22, and 43.

3. The Examiner has rejected claims 1, 22, and 33 as anticipated by the '461 patent.

The '461 patent shows and describes an LED array that comprises a plurality of lead frame substrates. The Examiner points to the array of substrates as forming an "elongate thermally conductive member."

The Examiner's attention is directed to the particular structure of the '461 patent wherein each LED is mounted on one lead frame that is affixed to an adjacent lead frame. The lead frames are affixed together with an insulating plastic material. In the description of FIG. 3, the insulating material is ABS plastic. ABS plastic is an electrical and thermal insulator. Accordingly, the structure of the '461 patent does not show or teach an elongate thermally conductive member as recited in the claims, but rather the '461 patent shows an elongate device comprising thermally conductive portions (the lead frames) and connected to and thermally separated from each other (by plastic sections).

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Each LED is mounted on one lead frame or thermally conductive section and an electrical conductor is carried by the adjacent lead frame or thermally conductive section to the one on which the LED is mounted. Accordingly, the '461 patent does not show or teach "one or more electrical conductors carried by said elongate thermally conductive member and connected to said at least one solid state light source to supply electrical power thereto" as called for by the claims.

Accordingly, claims 1, 22, and 33 are not shown or taught, or suggested by the '461 patent.

4. The Examiner has rejected claims 1-3, 5, 7, 17, 22-24, 26, 28, 38, 43-45, 47, 49, and 59 as obvious over the '491 patent.

Turning now to the '491 patent which is directed to a ski pole, it is pointed out that the entirety of the disclosure of this patent is silent on thermal issues with respect to the LEDs. This is particularly notable since the inventors there were certainly aware of thermal issues with respect to the microprocessor as evidenced by the statements made at col. 4, lines 53-56.

In addition, the LEDs are not carried on an outer surface of the ski pole. The description is silent on how the LEDs are mounted to the ski pole except that the LEDs are received in apertures in the pole (see col.3, lines 34-40). It is respectfully submitted that LEDs that are mounted in apertures of the pole are not carried by the outer surface of the pole. Accordingly there is no showing of "at least one solid state light source carried on said elongate member outer surface" as called for in claim 1.

The Examiner initially notes that the ski pole shown and described is an aluminum composite, but then characterizes the ski pole as aluminum in support of the rejection. However, the disclosure is absolutely silent on what the aluminum composite is. Some aluminum composite structural items comprise two thin layers of aluminum separated by a plastic layer. Other composites comprise mixtures of alumina and ceramic. The thermal characteristics of aluminum composites vary greatly. Accordingly, the Examiner's determination that the aluminum composite ski pole is thermally conductive finds no clear basis in the teachings of the '491 patent.

The definition of composite is "A structure or an entity made up of distinct components" (The American Heritage® Dictionary of the English Language: Fourth Edition. 2000).

Since the disclosure of the '491 patent is absolutely silent on what the distinct components are of the aluminum composite ski pole, it can not be said that the '491 patent either shows or teaches that the ski pole is used to conduct heat from the LEDs. More specifically, if the composite construction comprises a sandwich of aluminum and plastic layers, then since plastic is a thermal non-conductor, if the LEDs are considered as being mounted on the exterior surface of the ski pole, the plastic layer will act as a barrier to transfer of heat to air or fluid contained within the ski pole. If the

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LEDs are considered as being mounted on the interior surface of the ski pole, then the structure of the claims is not met.

In any event, the patent is absolutely silent on transfer of heat from the LEDs. It is respectfully submitted that the Examiner's contention that the ski pole is a thermally conductive member finds no support in the '491 patent. More importantly, the basis for the Examiner's contentions is a mischaracterization of the plain teachings of the reference found at the top of page 8 wherein the Examiner states "elongate thermally conductive member 12 is aluminum." Member 12 is not aluminum, it is aluminum composite and the composite is not defined. It can not therefore be concluded that the '491 patent either shows, teaches or makes obvious the novel structures of any of the claims in the application.

In addition, the disclosure is absolutely silent on whether or not there is any thermally conductive coupling between the LEDs and the ski pole.

Since there is no showing that the ski pole of the '491 patent is an elongate thermally conductive member and there is no showing of solid state devices or radiation emitting devices mounted on the external surface of an elongate thermally conductive device, it can not be said that the '491 patent shows, teaches or makes obvious the novel structures of claims 1-3, 5, 7, 17, 22-24, 26, 28, 38, 43-45, 47, 49, and 59.

5. The Examiner rejected claims 4, 8-13, 18, 25, 29-34, 39, 46, 50-55, and 60 as obvious over the '491 patent and the '517 publication.

No modification of the '491 patent meets the limitations of the base claims from which claims 4, 8-13, 18, 25, 29-34, 39, 46, 50-55, and 60 depend. The reasons that the '491 patent does not show, teach or make obvious the claimed invention of the base claims is set forth above.

The Examiner cites the '517 publication as showing aluminum extrusions and channels. The Examiner suggests that one skilled in the art would have been led by the teachings of the '517 patent to modify the ski pole of the '491 patent to include aluminum extrusions and channels on the basis that "One would have been motivated to make such a modification in view of the suggestion in the '517 publication that aluminum base 28 including extrusions or channels would increase thermal dissipation." However, there is no suggestion in the '491 patent that any consideration whatsoever has been given to thermal dissipation of heat from the LEDs. There is no suggestion in the '517 publication that extrusions or channels may be used in ski poles.

The Examiner is apparently looking at the combination of the references in the intellectual abstract and not for what is actually taught in the four corners of the references. There is no suggestion in either reference as to how extrusions or channels are to be used in conjunction with aluminum composite. There is no suggestion as to how one would add either extrusions or channels to a ski pole. Accordingly, it is respectfully submitted that one skilled in the art who is concerned with

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ski poles would not be lead to even select a reference such as the '517 publication. The Examiner's suggestion that extrusions and/or channels would be an obvious addition to the ski pole of the '491 patent is not consistent with the intended use of the ski pole. The addition of extruded aluminum extrusions to an aluminum composite ski pole is not even remotely suggested by the references.

Accordingly, none of claims 4, 8-13, 18, 25, 29-34, 39, 46, 50-55, and 60 are shown, taught or made obvious by the '491 patent and the '517 publication taken singly or in combination.

6. The Examiner has rejected claims 14-16, 20-21, 35-37, 41-42, 56-58, and 62-63 based upon the '491 patent and the '794 patent.

No modification of the '491 patent meets the limitations of the base claims from which claims 14-16, 20-21, 35-37, 41-42, 56-58, and 62-63 depend. The reasons that the '491 patent does not show, teach or make obvious the claimed invention of the base claims is set forth above.

The Examiner cites the '794 patent as showing a flexible circuit/insulating layer comprising electrical conductors.

The Examiner states that: "it would have been obvious to one of ordinary skill in the art at the time the invention was made to change the simple pipe 2 of the device of the '491 patent to include a flexible printed circuit board/insulating layer wrapping around pipe 2. One would have been motivated to make such a modification in view of the suggestion in the '794 patent that printed circuit boards allow utilization of mass production processes..."

However, the Examiner has lost sight of the simple fact that the '491 patent teaches a ski pole. The Examiner's suggested "motivation" is unlikely for the simple reason that ski poles are subjected to significant abuse that would make it highly likely that a flexible printed circuit wrapped around the exterior of a ski pole would be damaged and likely to fail. In addition, in ski equipment, appearance is extremely important and the covering of an aluminum composite ski pole with a flexible circuit would detract from the appearance of the ski pole. It is respectfully submitted that one of ordinary skill in the ski pole art would not be motivated as the Examiner has suggested. In addition, by covering the exterior surface of the ski pole with a flexible circuit board/insulating layer, the thermal characteristics of the ski pole are adversely impacted. If it is assumed that the composite pole is an aluminum/plastic sandwich, then it will be impossible to obtain heat transfer from the LEDs to the interior of the ski pole, and the insulating outer layer will prevent heat transfer from the exterior surface.

It is respectfully submitted that, if the references are fairly considered for what is shown and disclosed in the four corners of the documents, one would not be lead to the conclusion that the Examiner has reached.

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Accordingly, none of claims 14-16, 20-21, 35-37, 41-42, 56-58, and 62-63 are shown, taught or made obvious by the '491 patent and the '794 patent taken singly or in combination.

7/8. The Examiner has rejected the claims based on double patenting.

A terminal disclaimer is filed herewith.

9. The Examiner is thanked for the indication that claims 19, 40, and 61 are allowable. However, in view of the foregoing amendments and arguments, it is believed that all the claims presently in the application are allowable.

10. The reference cited but not applied by the Examiner has been reviewed. That reference, taken singly or in combination with the other references does not show, teach or make obvious applicant's novel invention.

It is believed that the claims are in condition for allowance. Reexamination and reconsideration are requested. It is further requested that the claims be allowed and this application be passed to issue. It is further requested that an early notice of allowance be issued.

Should the Examiner be of the belief that there are outstanding issues with respect to this application, the Examiner is invited to contact the undersigned at 602-463-2010.

Respectfully submitted,



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